In re Application of

SRINIVAS GUTTA ET AL.

Serial No. 10/014,180

Filed: NOVEMBER 13, 2001

Title: METHOD AND APPARATUS FOR EVALUATING THE CLOSENESS OF
          ITEMS IN A RECOMMENDER OF SUCH ITEMS

Atty. Docket

US 010567

Confirmation No. 2684

Group Art Unit: 2167

Examiner: LESLIE WONG

FEB 14 2005

Board of Patent Appeals and Interferences
7United States Patent and Trademark Office
PO Box 1450
Alexandria, VA 22313-1450

Sir:

Enclosed is an Appeal Brief in the above-identified

patent application.

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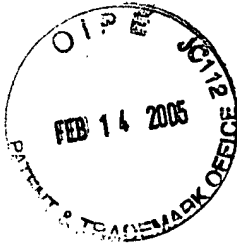
No. 14-1270.

Respectfully submitted,

By _____
Dicran Halajian, Reg. 39,703
Attorney
(914) 333-9607
February 9, 2005

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of	Atty. Docket
SRINIVAS GUTTA ET AL.	US 010567
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APPEAL BRIEF

Sir:

Appellant herewith respectfully presents its Brief on Appeal as follows:

REAL PARTY IN INTEREST

The real party in interest is Koninklijke Philips Electronics N.V., a corporation of The Netherlands having an office and a place of business at Groenewoudseweg 1, Eindhoven, Netherlands 5621 BA. Koninklijke Philips Electronics N.V. is the parent company of the assignee of record U.S. Philips Corporation, a Delaware corporation having an office and a place of business at 345 Scarborough Road, Briarcliff Manor, New York, 10510-8001.

RELATED APPEALS AND INTERFERENCES

To the best of Appellants' knowledge and belief, there are no related appeals or interferences.

STATUS OF CLAIMS

Claims 1-23 are pending in this application. Claims 1-23 are rejected in the Final Office Action that mailed September 13, 2004. This rejection was upheld in an Advisory Action that mailed November 15, 2004. Claims 1-23 are the subject of this appeal.

STATUS OF AMENDMENTS

An Amendment After Final Action was filed October 14, 2004 in response to the Final Office Action. The Advisory Action upheld the rejection in response to that amendment. This Appeal Brief is in response to the Final Office Action that rejected Claims 1-23 and the Advisory Action that upheld that rejection.

SUMMARY OF CLAIMED SUBJECT MATTER

The present invention, for example as claimed in independent Claims 1, 10 and 19-23, relates to a method and/or system for use in a recommender for evaluating the closeness of two items, where each item is characterized by at least one symbolic feature. The system shown in FIG 1 includes a processor 115 configured to perform a method shown in FIG 6 and described below. As shown in FIG 6, item 620 for example, and described in the specification, such as page 16, lines 9-21, and page 19, lines 13-19, the processor is configured to compute a distance between corresponding symbolic feature values of two items based on an overall similarity of classification of all instances for each possible value of the symbolic feature values. Further, as shown in FIG 6, item 630 for example, and described in the specification, such as page 18, lines 21-26, and page 19, lines 20-29, the processor is configured to aggregate or add the distances between each of symbolic feature values to determine the closeness of the two items.

More particularly, claim 4 recites equation 4, described on page 18 of the specification, where the similarity or closeness

between two values is determined by finding the sum of differences

of these likelihoods over all classifications. For example, the

distance between two television programs is the sum of the

distances between corresponding feature values of the two

television program vectors.

GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Whether Claims 1-23 of U.S. Patent Application Serial No. 10/041,180 are anticipated under 35 U.S.C. §102(e) by U.S. 6,334,127 B1 (Bieganski). The Appellants respectfully request the Board to address the patentability of independent Claims 1, 10 and 19-23 and further Claims 2-9 and 11-18, as depending thereon, based on the requirements of claims 1 and 10. This position is provided for the specific and stated purpose of simplifying the current issue on appeal. However, the Appellants herein specifically reserve the right to argue and address the patentability of each of the further claims at a later date should the separately patentable subject matter of those claims later become an issue. Accordingly, this limitation of the subject matter presented for appeal herein, specifically limited to discussions of the patentability of claims 1, 10 and 19-23 is not intended as a waiver of Appellants' right to argue the patentability of the further claims and claim elements at that later time.

ARGUMENT

Claims 1-23 are said to be unpatentable over Bieganski.

The Bieganski Patent

Bieganski discloses an electronic processing system for generating a serendipity-weighted recommendation output so that low value recommendations are not made. According to pages 2-3 of the Office Action, distance is equal to serendipity control value Bieganski, where column 14, lines 32-56 of Bieganski teaches aggregating the distances between each of the symbolic feature values to determine the closeness of two items.

There is no teaching or suggestion in Bieganski that the serendipity control value is equal to the distance between corresponding symbolic feature values, as recited in independent claims 1, 10 and 19-23.

Assuming, *arguendo*, that distance is equal to serendipity control value, it is respectfully submitted that column 14, lines 32-56 of Bieganski teaches <u>multiplying</u> the recommendation value by the serendipity control value. Aggregating or <u>adding</u> distances is

nowhere taught or suggested in Bieganski, let alone adding

distances between <u>each</u> of the symbolic feature values to determine

the closeness of two items, as recited in independent claims 1, 10

and 19-23.

On page 4 of the Final Office Action, the Examiner alleges

that on page 11 of the Amendment mailed on May 26, 2004:

> Applicants admitted that Bieganski teaches
> <u>aggregating</u> the distances between each of
> the symbolic feature values to determine the
> closeness of two items.

Applicants respectfully submit that the Examiner has misread

the May 26 Amendment. Not only was there no admission of Bieganski

teaching <u>aggregating</u> the distances, but there was an assertion that

Bieganski does not teach or suggest <u>aggregating or adding</u>

distances. The May 26 Amendment refers to the Examiner's

<u>allegation</u> of Bieganski teaching aggregating distances on pages 2-3

of the Office Action dated February 26, 2004.

Bieganski merely discloses an electronic processing system for

generating a serendipity-weighted recommendation output so that low

value recommendations are not made. Bieganski does not teach or

suggest that the serendipity control values are equivalent to

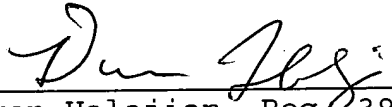distances between symbolic features, or <u>aggregating</u> the distances

between <u>each</u> of the symbolic feature values to determine the closeness of two items, as recited in independent claims 1, 10 and 19-23. Rather, Bieganski teaches (column 14, lines 32-56) <u>multiplying</u> the recommendation value by the serendipity control value.

Accordingly, it is respectfully submitted that independent claims 1, 10 and 19-23 be allowed. In addition, as claims 2-9 and 11-18 depend from independent claims 1 and 10, applicants respectfully request that claims 2-9 and 11-18 also be allowed.

CONCLUSION

Claims 1-23 are patentable over Bieganski. Thus the Examiner's rejection of Claims 1-23 should be reversed.

Respectfully submitted,

By_____
Dicran Halajian, Reg. 39,703
Attorney
(914) 333-9607
February 9, 2005

APPENDIX A

CLAIMS ON APPEAL

1   1.(Previously Presented) A method for use in a recommender

2 for evaluating the closeness of two items, each of said items

3 characterized by at least one symbolic feature, said method

4 comprising the steps of:

5   computing a distance between corresponding symbolic feature

6 values of said two items based on an overall similarity of

7 classification of all instances for each possible value of said

8 symbolic feature values; and

9   aggregating the distances between each of said symbolic

10 feature values to determine the closeness of said two items.

1   2.(Original) The method of claim 1, wherein said computing

2 step employs a Value Difference Metric (VDM) technique to compute

3 said distance between symbolic features.

1   3.(Original)   The method of claim 1, wherein said computing

2   step employs a modified Value Difference Metric (MVDM) technique to

3   compute said distance between symbolic features.

1   4.(Original)   The method of claim 1, wherein said distance, δ,

2   between two values, V1 and V2, for a specific symbolic feature is

3   given by:

4           $\delta(V1, V2) = \sum | C1i/C1 - C2i/C2 |^r$

5   wherein C1i is the number of times V1 was classified into

6   class i and C1 is the total number of times V1 occurred in the data

7   set.

1   5.(Original)   The method of claim 1, wherein said items are

2   programs, classes of interest are "watched" and not-watched" and

3   wherein said distance, δ, between two values, V1 and V2, for a

4   specific symbolic feature is given by:

5

$$\delta(V1, V2) = \left| \frac{C1\_watched}{C1\_total} - \frac{C2\_watched}{C2\_total} \right| +$$

6

$$\left| \frac{C1\_not\_watched}{C1\_total} - \frac{C2\_not\_watched}{C2\_total} \right|$$

7   wherein C1i is the number of times V1 was classified into

8   class i and C1_total is the total number of times V1 occurred in

9   the data set.

1   6.(Original) The method of claim 1, wherein one of said items

2   is a cluster mean.

1   7.(Original) The method of claim 1, wherein said items are

2   programs.

1   8.(Original) The method of claim 1, wherein said items are

2   content.

1   9.(Original) The method of claim 1, wherein said items are

2   products.

1   10.(Original) A method for assigning an item to one or more

2   groups of items, each of said items characterized by at least one

3   symbolic feature, said method comprising the steps of:

4   computing a distance between corresponding symbolic feature

5   values of said item and at least one item in each of said groups,

6   said distance based on an overall similarity of classification of

7   all instances for each possible value of said symbolic feature

8   values;

9   aggregating the distances between each of said features values

10   to determine the closeness of said item and at least one item in

11   each of said groups; and

12   assigning said item to said group associated with a minimum

13   distance value.

1   11.(Original)   The method of claim 10, wherein said computing

2   step employs a Value Difference Metric (VDM) technique to compute

3   said distance between symbolic features.

1   12.(Original)   The method of claim 10, wherein said computing

2   step employs a modified Value Difference Metric (MVDM) technique to

3   compute said distance between symbolic features.

1   13.(Original)   The method of claim 10, wherein said distance,

2   δ, between two values, V1 and V2, for a specific symbolic feature

3   is given by:

4         $\delta(V1, V2) = \sum | C1i/C1 - C2i/C2 |^r$

5   wherein C1i is the number of times V1 was classified into

6   class i and C1 is the total number of times V1 occurred in the data

7   set.

1   14.(Original)   The method of claim 10, wherein said items are

2   programs, classes of interest are "watched" and not-watched" and

3   wherein said distance, δ, between two values, V1 and V2, for a

4   specific symbolic feature is given by:

5    $$\delta(V1, V2) = \left| \frac{C1\_watched}{C1\_total} - \frac{C2\_watched}{C2\_total} \right| +$$

6    $$\left| \frac{C1\_not\_watched}{C1\_total} - \frac{C2\_not\_watched}{C2\_total} \right|$$

7   wherein C1i is the number of times V1 was classified into

8   class i and C1_total is the total number of times V1 occurred in

9   the data set.

1   15.(Original)   The method of claim 10, wherein one of said

2   items is a cluster mean.

1   16.(Original)   The method of claim 10, wherein said items are

2   programs.

1   17.(Original)   The method of claim 10, wherein said items are

2   content.

1   18.(Original)   The method of claim 10, wherein said items are

2   products.

1   19.(Original)   A system for use in a recommender for

2   evaluating the closeness of two items, each of said items

3   characterized by at least one symbolic feature, comprising:

4   a memory for storing computer readable code; and

5   a processor operatively coupled to said memory, said processor

6   configured to:

7   compute a distance between corresponding symbolic feature

8   values of said two items based on an overall similarity of

9   classification of all instances for each possible value of said

10   symbolic feature values; and

11   aggregate the distances between each of said symbolic features

12   values to determine the closeness of said two items.

1   20.(Original)   A system for use in a recommender for

2   evaluating the closeness of two items, each of said items

3   characterized by at least one symbolic feature, comprising:

4   means for computing a distance between corresponding symbolic

5   feature values of said two items based on an overall similarity of

6   classification of all instances for each possible value of said

7   symbolic feature values; and

8   means for aggregating the distances between each of said

9   symbolic features values to determine the closeness of said two

10   items.

1   21.(Original)   An article of manufacture for use with a

2   recommender for evaluating the closeness of two items, each of said

3   items characterized by at least one symbolic feature, comprising:

4   a computer readable medium having computer readable code means

5   embodied thereon, said computer readable program code means

6   comprising:

7   a step to compute a distance between corresponding symbolic

8   feature values of said two items based on an overall similarity of

9   classification of all instances for each possible value of said

10 symbolic feature values; and

11   a step to aggregate the distances between each of said

12 symbolic features values to determine the closeness of said two

13 items.

1   22.(Original) A system for assigning an item to one or more

2   groups of items, each of said items characterized by at least one

3   symbolic feature, comprising:

4   a memory for storing computer readable code; and

5   a processor operatively coupled to said memory, said processor

6   configured to:

7   compute a distance between corresponding symbolic feature

8   values of said item and at least one item in each of said groups,

9   said distance based on an overall similarity of classification of

10   all instances for each possible value of said symbolic feature

11   values;

12   aggregate the distances between each of said features

13   values to determine the closeness of said item and at least one

14   item in each of said groups; and

15   assign said item to said group associated with a minimum

16   distance value.

1   23.(Original) An article of manufacture for assigning an item

2   to one or more groups of items, each of said items characterized by

3   at least one symbolic feature, comprising:

4   a computer readable medium having computer readable code

5   means embodied thereon, said computer readable program code means

6   comprising:

7   a step to compute a distance between corresponding symbolic

8   feature values of said item and at least one item in each of said

9   groups, said distance based on an overall similarity of

10   classification of all instances for each possible value of said

11   symbolic feature values;

12   a step to aggregate the distances between each of said

13   features values to determine the closeness of said item and at

14   least one item in each of said groups; and

15   a step to assign said item to said group associated with a

16   minimum distance value.

APPENDIX B

Evidence on Appeal

None

APPENDIX C

Related Proceedings of Appeal

None